

## CHAPTER 3

### FULL-SCALE SURVEYS

A full-scale survey includes developing a current sample of establishments and collecting salary, wage, and benefit data by visits to these establishments. It involves matching survey jobs, collecting data on numbers of employees and rates of pay as well as other data, and analyzing the data to measure the compensation level in the selected non-U.S. Forces sector. Conduct full-scale surveys at least every 3 years, or more frequently if economic conditions are unstable. Conduct update surveys in intervening years. See Chapter 5 for more details on update surveys.

#### A. General

1. This chapter provides guidance for surveying pay components. Guidance regarding benefit component surveys and total compensation determination is found in Chapters 4 and 8.

2. The pay component is remuneration provided in cash or in kind for services rendered. It includes the basic rate paid for the performance of the duties of a job, bonuses, allowances, the monetary value of payments-in-kind, seniority pay, merit pay, and other cash payments. An expanded listing of commonly found pay components is at Appendix B. Most pay components are expressed in local currency as hourly, daily, weekly, monthly, or annual amounts. Some pay components may be expressed as a percent of salary.

#### B. Planning the Survey

1. Hold a survey planning meeting. Include the following items on the agenda, as well as any others that may be particular to a given country:

- a. Survey timetable
- b. Employee inventory
- c. Resources needed
- d. Survey questionnaire
- e. Survey area and application area definitions
- f. Industry coverage and selection of survey establishments
- g. Survey job list
- h. Survey summary

2. Survey timetable: When developing the survey timetable, take the following into account: timing of survey companies' wage adjustments, local holidays, desired effective date of the new wage rates, estimated time required for each survey phase, and other scheduled commitments of U.S. Forces survey participants.

3. Employee inventory: Count the number of employees by schedule, grade, step, and occupational series. If required for modeling or analysis purposes, collect additional data on the work force such as length of service. Use the employee inventory data to review survey job coverage, calculate average-to-average adjustments, analyze survey data, and to cost out the survey results.

4. Resources needed: Determine the number of data collectors and analysts needed and which organizations agree to provide support. Check availability of computer support. Check availability of office space, telephones, and other logistic requirements. Determine whether data collector training is needed, and if so, set up the training requirements. If there is any doubt as to the adequacy of computer support or space, conduct a site survey.

5. Survey questionnaire: Develop data collection forms in sufficient detail to elicit all information needed to price non-U.S. Forces pay components. Data must permit the separate measurement of non-U.S. Forces base pay, total pay, and the value of any pay components that may be paid separately by the U.S. Forces. Anticipate and account for management or labor requests regarding the questionnaire. Include only necessary benefit or other survey items--keep the questionnaire as short as possible. Delete questionnaire items that have proven unproductive in prior surveys. Finally, automate as much of the survey questionnaire as possible.

6. Survey area and application area definitions:

a. The survey area is the geographic area in which the surveyed establishments are located. The survey area normally encompasses the area surrounding U.S. Forces work sites within which the predominant number of employees reside, and within which workers may change employers without changing residences. However, if the local survey area has an insufficient industrial base for pay setting purposes or if there is significant recruitment from elsewhere, the survey area may be expanded. The types and distribution of firms (including government facilities), geographic features, availability of public transportation, and commuting habits of workers may influence the establishment of survey area boundaries.

b. The application area is that geographic area, including the survey area and additional areas within which U.S. Forces employ foreign nationals, where pay schedules derived from pay surveys are uniformly applied to all U.S. Forces foreign national employees.

c. Two or more application areas may be combined to form a single area in those countries where pay rates differ only slightly between local areas or the numbers-of firms and matched jobs in an area are too few to develop valid pay lines. Countrywide application areas are preferred when there may be significant problems in the administration of separate local pay schedules.

7. Industry coverage and selection of survey establishments: Select survey industries from the broadest feasible universe of non-U.S. Forces industries, including civilian and military branches of the host government. If inclusion of the host government (national, state, and local levels) is not feasible, document the reasons for its exclusion and include the documentation

in the country plan or in survey reports to the ASD(FM&P). Information used for selecting survey industries and survey establishments must be as complete and reliable as possible. Sources include host government agencies, the U.S. Embassy, employer associations, and economic planning boards.

a. The number of establishments that need to be surveyed to obtain representative pay and benefits data varies with the types and sizes of companies surveyed and the number and occupational variety of foreign national employees in the U.S. Forces work force. It is important that the industries and individual survey establishments provide a representative sample of the sizes and kinds of industries that are the counterparts to the U.S. components' missions. However, consider eliminating industries that provide few survey job matches. The selected establishments should be in competition with the U.S. Forces for workers. If selected establishments prove to be small family-type operations, bankrupt, and/or clearly and significantly in violation of host government labor laws, they may be excluded from further data analysis. Document such exclusions in regular survey reports.

b. Review industrial coverage with each full-scale survey to ensure changes in both U.S. Forces requirements and in-country industrial makeup are reflected in the selected sample. If one or a few establishments dominate the sample because of the large number of job matches obtained from the establishments, reduce the dominance by adding firms to the survey establishment list. The list of survey establishments should be stabilized to the extent possible to obtain consistent measures of pay trends in the economy, thereby lending a visible measure of credibility to U.S. Forces pay concepts and policies.

8. Survey job list: Select survey jobs that are representative of the U.S. Forces work force, both as to occupation and grade level, and that can be matched in the non-U.S. Forces sector. Include the most populated jobs at their most populated grade levels. To the extent possible, include survey jobs at each grade level in proportion to the U.S. Forces population at each grade level. If an uneven distribution of survey job grades results, supplement the survey job list with other survey jobs likely to produce reliable data from the designated industry coverage.

a. Review survey jobs when planning for each full-scale survey. If successive full-scale surveys fail to produce adequate matches for a survey job, document the facts and drop the job from future surveys.

b. U.S. Forces standard job descriptions and definitions may require modifications to make them suitable for use as survey job descriptions. Ensure that the survey description can be matched to industrial work situations, that levels of work are clearly differentiated, that peculiar U.S. Forces terminology is converted to common industrial terminology, and that critical elements of the job description are highlighted in either the job description or in supplemental material available to the data collector. Make the descriptions broad enough to facilitate collection of adequate wage and salary data. After each survey, review and modify each description to eliminate or minimize problems encountered in job matching.

9. Survey summary: Design a summary of the survey results to be distributed to participating firms. The summaries should protect the confidentiality of the data.

10. Minutes: Prepare minutes of the planning meeting.

C. Data Collection

1. When selecting employees to be used as data collectors, give primary consideration to their overall ability to perform the duties assigned to them. Data collectors must be:

- a. Well-versed in the occupational content of a wide range of occupations;
- b. Able to approach the collection of data objectively, open-mindedly, fairly, and without any semblance of prejudice;
- c. Able to maintain pleasant relationships in communicating with people; and
- d. Able to talk intelligently and maturely to non-U.S. Forces management.

2. Normally, a team of data collectors will collect data. When consistent with in-country-needs, one member of the data collection team may be a local national who meets the qualification requirements in paragraphs C.1.a. through C.1.d., above. Whenever practical and to avoid any appearance of bias, the other member of the team should be a U. S. citizen.

3. Each data collector having access to collected data must retain this information in confidence. The data collector is subject to disciplinary action by his or her employer upon proof of violation of this confidence.

4. Conduct periodic training sessions for the data collectors.

5. Appendix C contains general instructions for data collection. Supplement these instructions to meet in-country needs.

6. Collect the data by personal visits to the survey companies. Conduct an initial review of the data as soon as possible after the data are collected to identify and correct errors before data input. Guidelines for this initial review are in Appendix D.

7. If the data will be analyzed without the use of a computer, recap the data by survey job and proceed to the analysis phase of the survey. If a computer will be used, enter the data, conduct an audit to detect errors, correct the errors, and go on to the analysis phase of the survey.

D. Analysis

1. A computer with appropriate software will greatly assist in the analysis of survey data. Compute the following for each survey job in each company:

- a. The weighted average basic rate of pay.
- b. The weighted average of payments-in-kind.

c. The weighted average of miscellaneous pay components that, when consolidated, will be used to set a single, separate pay component for U.S. Forces employees.

d. The weighted average of any other pay component to be paid separately by the U.S. Forces, unless all establishments within the non-U.S. Forces sector pay such component in a manner that is identical to the U.S. Forces practice. In that case, the component may be eliminated from the survey data.

e. The weighted average of D.1.a. through D.1.d., above (total pay).

2. Summarize data by survey job, and calculate D.1.a. through D.1.e., above, for each survey job.

3. Calculate the weighted average total pay for each grade level.

4. Calculate median values if desired. Remember that medians, unlike means, may not be averaged. For example, the median for a given grade is found by ordering all the rates at that grade level and then finding the middle rate, rather than averaging the medians of the survey jobs at that grade level.

5. Compare the survey job data collected on this survey against the previous survey to identify observations that were included in a survey job on the last survey, but are missing "this survey, and vice versa.

6. Identify company job weighted averages that are significantly outside the cluster of rates for each survey job and respective grade level.

a. Use standard deviation analysis techniques to identify company weighted averages more than two standard deviations from the survey job mean and/or the respective grade level mean.

b. Check the impact of outlying company job averages by comparing survey job weighted averages with and without the outlying data.

7. Graph the survey job weighted averages and grade level weighted averages to see the trend of the data and to visually spot those that may be out of alignment. (See Appendix E.) The overall trend of the data may be linear, nonlinear, or segmented. If a logarithmic trend (characterized by a constant percentage between grades) is suspected, plot the logs of the averages on half-log paper.

8. The trend of the survey data may be mathematically described through regression analysis, a method for predicting a value based on other known values. In the case of wage surveys, we conduct a regression analysis of pay on grade level. Certain assumptions are made in regression analysis, a fundamental one being that pay is based on skill level. Therefore, trend lines should be run only on pay data that are survey job and/or grade related. For example, annual leave, supplemental retirement plans, and medical plans are not grade related and should not be part of the pay regression analysis. For guidance in analyzing these types of benefit data, see Chapter 4. Compute trend lines reflecting the visual trend of the data identified in subsection D.7., above, in accordance with the procedures set forth in Appendix F. Due to

the significant time required to aggregate data and to calculate trend lines manually, use computer support as much as possible. Trend lines may be run at the following levels of data aggregation:

- a. "Frequency" (each observation is weighted by the number of employees at that observation).
- b. "Company Job Unit" (equal weight to each company observation).
- c. "Job Unit" (equal weight to each survey job average or survey job median).
- d. "Grade Unit" (equal weight to each grade average or grade median).

Each level of aggregation may be run as a linear (constant intergrade differential), parabolic (constant difference in the intergrade differentials), or logarithmic (constant percentage intergrade differential) line. It is neither required nor expected that all possible trend lines be run each time the data are edited. It is important, therefore, to decide from visual inspection of the data (see subsection D.7. , above) and the shape of the existing trend lines whether a linear, parabolic, or logarithmic line is indicated. Once the overall shape of the trend line is evident, run only the regressions that fit the trend of the data.

9. Analyze company data points and survey job averages with respect to computed trend lines. Use standard deviation analysis to identify company job averages that lie outside a band of plus or minus 2 standard deviations from the trend lines. Note that extreme company job averages may be identified with respect to the company unit or frequency lines and extreme survey job averages may be identified with respect to the survey job unit line. Analyze these outliers and potentially disruptive data on a case-by-case basis. Additional information on specific data points may reveal reasons to exclude the data--red circle or part-time rates, for example. However, even if these data are otherwise acceptable, exclude them if their inclusion distorts the survey results. Recompute trend lines as necessary.

10. Select an appropriate trend line, considering the conditions specific to the country concerned and factors such as the following:

- a. The relationship of the proposed trend line to the average wage rates for specific occupations represented in the survey jobs that have substantial U.S. Forces population.
- b. Current" local labor market conditions in relation to principal occupations used in the U.S. Forces.
- c. The pattern of change in the major industries included in the survey, such as across-the-board percentages or cents-per-hour increases or varying increases based on level of responsibility.
- d. The grade distribution of the U.S. Forces work force.

e. The type of line selected on the previous survey--it is generally not desirable to change the shape of the trend line from year to year.

f. Variability is reduced when data are aggregated into survey job averages and grade averages. Remember that it appears the trend lines fit aggregated data better than non-aggregated data, but because of the smaller number of data points we are less confident of the results.

g. The distribution of data points about the lines.

h. The influence of extreme data--these data may not be available for the next survey.

11. Translate non-U.S. Forces data to a U.S. Forces pay component package. Develop the pay component package for U.S. Forces employees to meet in-country needs, in accordance with the following policies and guidance:

a. It is DoD policy that survey results shall be equated to the U.S. Forces pay schedules on an average-to-average basis. The following apply to the placement of the pay line within the step rate structure:

(1) If a pay system measures comparability with the non-U.S. Forces sector through surveys that collect wage data by kind and level of work performed, regardless of seniority or other conditions that affect the placement of the workers in the rate range, and if such data are used in regression analyses to formulate a new pay comparability line for the U.S. Forces pay structure, that system must relate the pay line to the average pay of the U.S. Forces employees through acceptable methods (see Appendix G).

(2) If a foreign national system measures the variable of longevity in its wage survey procedure and establishes minimums, or minimum-maximum ranges in accordance with the practice of the non-U.S. Forces sector, the system is considered to have achieved the total pay comparability posture that the average-to-average procedure seeks to achieve.

b. Payments-in-kind, bonuses, and allowances normally shall be paid as separate components (either individually or consolidated). Only base pay shall be used to compute premium pay (such as overtime and holiday pay), cost-of-living allowances, bonuses, or separation entitlements, unless host government law or prevailing compensation practices support a different computation procedure.

#### E. Prevailing Practice Determination

1. Decision of the Comptroller General, Volume 40, page 650 (reference (c)) provides the following guidelines for determining whether a pay or benefit component is a prevailing practice and can be paid separately:

a. The practice should be substantially followed by local employers in the area;

b. Adoption of the practice should be consistent with the public interest; and

c. The manner of adopting the practice should be coordinated with other U.S. Government Agencies so that the same or a substantially similar-practice will be followed by each Agency operating in that area.

2. Consistent with this decision, the following additional guidance is provided:

a. An employment practice shall be considered to be a prevailing practice when a majority of the survey firms employing a majority of the survey population follows such a practice.

b. The amount or level of benefits associated with the employment practice shall be determined in the following manner:

(1) Any rate or level paid by a simple majority of the survey firms shall be considered to be prevailing practice, providing the number of employees at that rate or level exceeds the number receiving any other rate or level reported (including zero or none) in the survey.

(2) When no one rate or level can be established as prevailing practice under subparagraph E.2.b. (1), above, the weighted average rate or level of a benefit paid by survey firms (i.e., the sum of each company's rate multiplied by the number of employees at that rate, divided by the total employee population) shall be considered the prevailing practice.

(3) The application of subparagraphs E.2.b. (1) and E.2.b.(2), above, must be consistent with operational requirements and compatible with the basic management needs of the U.S. Forces.

#### F. Effective Dates

The general policy for selecting the effective date for changes in compensation and conditions of employment is that such changes shall be effective no earlier than the date competent administrative authority (in this case the component to whom wage fixing authority has been delegated) takes final action to approve the changes. Exceptions to this general policy may be justified in certain instances under such authority as the specific provisions of controlling treaties and agreements, or the "Foreign Service Act of 1980" (P.L. 96-465, reference (a)), if supported by local custom and practice. 5 U.S.C. ,5344 (reference (d)) applies only to U.S. citizens and cannot be used as the authority for retroactive adjustments for foreign national employees. Unless unquestionable legal authority for retroactive changes exists, all changes in compensation and conditions of employment shall be effective no earlier than the date the wage fixing authority takes final action to approve the changes.